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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/508,812	09/21/2004	Takakiyo Kanazawa	SON-2651	5948

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EXAMINER

GUPTA, PARUL H

ART UNIT	PAPER NUMBER
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2627

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/508,812

Applicant(s)

KANAZAWA ET AL.

Examiner

Parul Gupta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 44-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 44-64 and 67 is/are rejected.
- 7) ☒ Claim(s) 65 and 66 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 44-67 are pending for examination as interpreted by the examiner. The amendment and arguments filed on 7/17/07 were considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 44-47, 57-64, and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakao et al. in view of Misawa et al., US Patent 4,876,680.

Regarding claim 44, Nakao et al. teaches in figure 1 an optical pickup apparatus comprising: an optical member (4-7) attached to an objective lens plate (shown more clearly as element 12 of figure 13) and a substrate (2), said optical member being between said objective lens plate (shown more clearly as element 12 of figure 13) and said substrate (2); a mount member (glue attaching elements 1 and 2) attached to a light source (1) and said substrate (2), said mount member being between said light source and said substrate; and a light receiving element (3) attached to said substrate, wherein said light beam (arrow) emitted from said light source (1) is illuminated through said objective lens plate (12) onto a recording face of an optical disk (13). Nakao et al. does not but Misawa et al. teaches said light receiving element being between said optical member and said substrate and said light beam reflected by said recording face being received through said objective lens plate by said light receiving element (column

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4, line 61 to column 5, line 12). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of the light receiving element being in the given position into the system of Nakao et al. as taught by Misawa et al. The motivation would be to provide the optimum coupling efficiency (column 5, lines 6-12 of Misawa et al.).

Regarding claim 45, Nakao et al. teaches in figure 1 an optical pickup apparatus according to claim 44, wherein said light source and said mount member are covered with an anticorrosion element (shown in figures 4A to 6B and explained further in column 6, lines 24-49).

Regarding claim 46, Nakao et al. teaches the optical pickup apparatus according to claim 45, wherein connection terminals provide a driving signal to said light source and electric terminals on said substrate relay said driving signal, and said connection terminals and said electric terminals are covered with said anticorrosion means. Column 11, lines 4-13 give the necessary connection terminals. Although it is not specified how they are covered with anticorrosion means, the fact that the details of protecting the light source are given makes it obvious to one of ordinary skill in the art at the time of the invention to protect all elements exposed to air in the same way.

Regarding claim 47, Nakao et al. teaches in figure 1 the optical pickup apparatus according to claim 45, wherein said anticorrosion element is a synthetic resin material (shown in figures 4A to 6B and explained further in column 6, lines 24-49). The given section explains the anticorrosion means, which serve the same purpose as the synthetic resin material.

Regarding claim 57, Nakao et al. teaches in figure 13 the optical pickup apparatus according to claim 44, wherein an objective lens (26) is incorporated within said objective lens plate (27), said light beam (arrow) passing through said objective lens.

Regarding claim 58, Nakao et al. teaches the optical pickup apparatus according to claim 44, wherein said optical member is adapted to change a polarization of said light beam between linearly polarized light and circularly polarized light (column 4, line 67-column 5, line 5).

Regarding claim 59, Nakao et al. teaches in figure 1 the optical pickup apparatus according to claim 44, wherein said optical member includes a polarizing beam splitter (5) and a quarter-wave plate (7).

Regarding claim 60, Nakao et al. teaches in figure 1 the optical pickup apparatus according to claim 59, wherein said polarizing beam splitter (5) is between said quarter-wave plate (7) and said substrate (2).

Regarding claim 61, Nakao et al. teaches in figure 1 the optical pickup apparatus according to claim 59, wherein said polarizing beam splitter (5) is in contact with said quarter-wave plate (7, done through element 6) and said substrate (2, done through element 4).

Regarding claim 62, Nakao et al. teaches in figure 10B the optical pickup apparatus according to claim 59, further comprising: a slider ("flying slider" of element 17) opposed to said recording face (13), said objective lens (part of elements 100, 101,

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shown more clearly as element 26 of figure 13) between said slider (17) and said optical member (part of elements 101, 101, shown more clearly as elements 4-7 of figure 1).

Regarding claim 63, Nakao et al. teaches in figure 10B the optical pickup apparatus according to claim 62, wherein the optical pickup apparatus is levitated along a thicknesswise direction of said optical disk by an air flow formed between said slider (17A) and said recording face (13).

Regarding claim 64, Nakao et al. teaches in figure 13 the optical pickup apparatus according to claim 62, wherein said objective lens plate (27) is in contact with said slider (element 17 of figure 10B) and said quarter-wave plate (part of element 103).

Regarding claim 67, Nakao et al. teaches in figure 15 an optical disk apparatus comprising: the optical pickup apparatus according to claim 44; and a driving apparatus adapted to hold and drive the optical disk to rotate (column 11, lines 6-7).

3. Claims 48-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakao et al. in view of Misawa et al., further in view of Crane et al., US Patent 6,078,473.

Regarding claim 48, Nakao et al. in view of Misawa et al. teaches the limitations of claim 44. Nakao et al. in view of Misawa et al. does not but Crane et al. teaches the optical pickup apparatus, wherein said substrate is attached to a support plate (22 of figure 3), said support plate having a thermal conductivity and a heat radiating property (column 2, lines 6-10 explain that the flexure is conductive). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of the given support plate as taught by Crane et al. into the system of Nakao et al. in view of

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Misawa et al. The motivation would be to ensure that force is carried equally by all elements in the apparatus and to ensure that the support plate is conductive (column 6, lines 1-33 of Crane et al.).

Regarding claim 49, Crane et al. teaches the optical pickup apparatus wherein, said support plate is made of copper (column 6, lines 22-33).

Regarding claim 50, Crane et al. teaches the optical pickup apparatus wherein, said support plate is made of iron plated with copper (column 6, lines 22-33 discusses the use of gold-plated copper, which provides the same blend of iron and copper used for the same purpose).

Regarding claim 51, Crane et al. teaches the optical pickup apparatus wherein, said support plate has a heat radiating fin (elements 174 and 176 of figure 13) provided thereon in a projecting manner in a direction in which said radiating fin approaches the recording face.

Regarding claim 52, Crane et al. teaches the optical pickup apparatus wherein, said support plate (45 of figure 3) is attached to a load beam (18 of figure 3), said load beam being adapted to transmit and radiate heat from said light source (column 2, lines 6-10 explain that the flexure is conductive). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of the given load beam attached to a support plate as taught by Crane et al. into the system of Nakao et al. in view of Misawa et al. The motivation would be to ensure that force is carried equally by all elements in the apparatus and to ensure that the load beam is conductive (column 6, lines 1-33 of Crane et al.).

Regarding claim 53, Crane et al. teaches in figure 7 the optical pickup apparatus, wherein grease is between said support plate (22) and said load beam (18), said grease being adapted to transmit heat (column 5, lines 32-45).

Regarding claim 54, Crane et al. teaches the optical pickup apparatus, wherein said load beam has a heat radiating fin (elements 174 and 176 of figure 13) provided in a projecting manner in a direction in which said load beam approaches the recording face.

Regarding claim 55, Crane et al. teaches the optical pickup apparatus wherein, said load beam is made of copper (column 6, lines 22-33).

Regarding claim 56, Crane et al. teaches the optical pickup apparatus wherein, said load beam is made of iron plated with copper (column 6, lines 22-33 discusses the use of gold-plated copper, which provides the same blend of iron and copper used for the same purpose).

Allowable Subject Matter

4. Claims 65-66 are objected to as being dependent on a rejected base claim, but would be allowable over the prior art because of the references cited in the record, considered in combination or alone, fail to suggest or fairly teach the given light source adapted to emit a light beam from a light emitting face and emit a monitoring light from a face other than said light emitting face. The closest prior art, Nakao et al., only teaches one light beam. Regarding claim 66, Nakao et al. teaches the optical pickup apparatus according to claim 65, wherein said light source includes a light emitting element (1)

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and a photo-detector (3), said light emitting element being adapted to emit said light beam, said photo-detector being adapted to monitor said monitoring light.

Response to Arguments

5. Applicant's arguments with respect to all claims have been considered but are not persuasive. Applicant contends that the prior art does not teach the limitations of the newly added claims. However, these claims are treated above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parul Gupta whose telephone number is 571-272-5260. The examiner can normally be reached on Monday through Thursday, from 9:30 AM to 7 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHG
9/22/07



WAYNE YOUNG
SUPERVISORY PATENT EXAMINER